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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/646,615 | 08/22/2003 | William J. Hennen | 2820-5474.1US | 8609 |

24247 7590 07/09/2008

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| EXAMINER | |
|---|---|
| KIM, TAEYOON | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1651 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 07/09/2008 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/646,615 | HENNEN, WILLIAM J. | |
| | Examiner | Art Unit | |
| | Taeyoon Kim | 1651 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *24 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,4-8,11,12,14-16,50,53-57 and 59-78* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-8,11,12,14-16,50,53-57 and 59-78* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

Claims 1, 4-8, 11, 12, 14-16, 18, 50, 53-57 and 59-78 are pending.

### *Response to Amendment*

Applicant's amendment and response filed on 3/24/2008 has been received and entered into the case.

Claims 2, 3, 9, 10, 13, 17, 19-49, 51, 52 and 58 are canceled, and claims 1, 4-8, 11, 12, 14-16, 18, 50, 53-57 and 59-78 are pending and have been considered on the merits. All arguments have been fully considered.

The claim objection has been withdrawn due to the amendment.

The claim rejections under 35 U.S.C.§112 have been withdrawn due to the amendment.

In the response to the previous office action, applicant argued that none of the references teaches or suggests a composition that includes transfer factor that is specific for at least one of HSV type I, II, CMV, Chlamydia pneumoniae or Helicobacter pylori. The examiner directs the applicant's attention to the previous office action (p. 9-10) and Ramaekers (col. 1, lines 21-22). According to Ramaekers, the transfer factor used is pathogen-specific against HSV. As discussed in the previous office action, although Ramaekers does not particularly disclose the type of HSV (i.e. type I or type II), since it is well known in the art that HSV encompasses HSV-I and HSV-II, a person of ordinary skill in the art would have once envisaged transfer factor specific for HSV would be specific for HSV-I and/or HSV-II. Moreover, it would have been obvious to a

person of ordinary skill in the art to use a transfer factor specific for HSV-I and/or HSV-II in the place of a transfer factor specific for HSV as taught by Ramaekers.

Further, applicant argued that there is no reason for one of ordinary skill in the art to combine teachings from Ramaekers with teachings of secondary references, because the amended claims are drawn to a composition consisting essentially of transfer factor and other listed elements. This is not persuasive. First, the teaching of Rath et al., Tentolouris et al., an article for Cholesterol-lowering drugs, or Focant et al. is not supposed to be combined with the teaching of Ramaekers, rather these secondary references are for supporting the inherent properties of components taught by Ramaekers. Ramaekers teaches lysine, arginine, niacin and vitamin E being a LDL receptor-binding component, a blood flow-enhancing component, a cholesterol-reducing element, or a fat oxidation prevention element, respectively. Therefore, Ramaekers teaches all the listed ingredients along with transfer factor. The claim rejection was not based on the combinations of teachings from the secondary references. The secondary references are provided to only support inherent properties of the components.

With regard to the transition phrase of "consist essentially of" in claim 1, M.P.E.P. §2111.03 clearly indicates that the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) (emphasis in original). "A 'consisting essentially of' claim occupies a middle ground between closed claims that are written in a consisting of' format and fully open claims that are drafted in a

'comprising' format." *PPG Industries v. Guardian Industries*, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998), *et al.* For the purposes of searching for and applying prior art under 35 U.S.C. §§ 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964) *et al.* Since the specification in this case does not particularly point out the basic and novel characteristics of the claimed composition, "consisting essentially of" in claim 1 and its dependent claims has been interpreted as "comprising" for the purpose of art rejections.

Applicant also argued that the references do not teach or suggest a composition including a transfer factor and vitamin C in the same amounts. It is the examiner's position that the amount of each ingredient in a composition would be considered as a result-effective variable. As such, the variables would be routinely optimized by one of ordinary skill in the art in practicing the invention disclosed by those references. Generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 CCPA 1955) (Claimed process which

was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed atl a temperature of 100°C and an acid concentration of 10%.); >see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); ** In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the :references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997). Accordingly, the claimed invention was prima facie obvious to one of ordinary skill in the art at the time the invention was made especially in the absence of evidence to the contrary.

Applicant asserted that the “transfer factor-like” substance of Tokoro et al. is different from transfer factor referring Dunnick et al. Dunnick et al. teach that transfer factor-like activities (TFLA) and transfer factor are structurally similar and related, but no direct relationship has been established between them. This cannot be interpreted that transfer factor and TFLA is different. The reference merely indicates that there is no

established relationship between them. Furthermore, the study of Dunnick et al. is based on guinea pig rather than chicken. Therefore, this reference cannot prove that transfer factor-like substance of Tokoro et al. is not transfer factor. The examiner continuously takes the position that the transfer factor-like component of Tokoro is the same as the avian transfer factor of the current invention because the transfer factor-like component of Tokoro is obtainable from the same method and materials used in the production of the avian transfer factor, that is immunization of specific antigen/pathogen into a hen and isolate antibodies smaller than 10,000 Da from eggs.

### *Claim Objections*

Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 16 is dependent on the cancelled claim 13. Appropriate correction is required. For the search purpose, it is interpreted to be dependent on claim 1.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4-8, 11, 12, 14-16, 18, 50, 53-57 and 59-78 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in

such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The newly introduced limitation of the transition phrase "consist essentially of" introduces a new matter to the current application. The specification does not have a proper support to the limitation of "consist essentially of" in regard to the basic and novel characteristics of the claimed composition.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 7, 8, 11, 12, 14, 15, 50, 56, 57, 59-64, 66, 67 and 72-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Ramaekers (US 6,506,413) in view of Rath et al. (US 5,650,418), Tentolouris et al. (2000), Cholesterol-lowering drugs, Focant et al. (1998), Gordon (1999), or Kirkpatrick (1975).

Claims 1, 7, 8, 11, 12, 14, 15, 50, 56, 57, 59-64, 66, 67 and 72-78 are drawn to a composition for treating a cardiovascular disorder comprising an inflammation-reducing component for decreasing inflammation in blood vessels comprising transfer factor specific for a pathogen or an antigen of a pathogen, or a pathogen-reducing component for decreasing pathogens in blood vessels comprising transfer factor specific for a pathogen or an antigen of a pathogen, with a blood flow-enhancing component; being

mammalian transfer factor; the mammalian transfer factor comprising a colostrums extract; to limitations to an inflammation-reducing component or a pathogen-reducing component in the composition being specific for HSV-II; the composition further comprising an LDL receptor-binding component; the LDL receptor-binding component comprising lysine or lysine salt; the blood flow-enhancing component comprising arginine or nicotinamide; the composition further comprising antioxidant; the antioxidant being hydrophobic; the hydrophobic antioxidant being vitamin E; the composition further comprising a cholesterol-reducing element.

Ramaekers teaches a composition containing mammalian transfer factor which would be antigen-specific (varicella antigen; column 1, lines 29-30) or pathogen-specific (HSV; column 1, lines 21-22) from colostrums extract, arginine or nicotinamide (niacinimide), lysine, a hydrophobic antioxidant as well as a fat oxidation prevention element, vitamin E (see column 2; table 2), niacin (converted to niacinamide in vivo), a cholesterol-reducing element (see column 2, line 65). Ramaekers also discloses Vitamin C in the composition comprising transfer factor (see column 5, lines 23-25).

Although Ramaekers do not specifically teach that lysine as a LDL receptor-binding component, arginine being a blood flow-enhancing component, niacin (niacinamide) being a cholesterol-reducing element, or vitamin E, a fat oxidation prevention element, it is an inherent property of lysine/lysine salt, arginine, or niacin (niacinamide) having a property as a LDL receptor-binding component, a blood flow-enhancing component, or cholesterol-reducing element as supported by Rath et al. (U.S. Patent 5,650,418), Tentolouris et al. (see Abstract), Cholesterol-lowering drugs

(http://www.americanheart.org/presenter.jhtml?identifier=4510; page 2), or Focant et al. (see Abstract), respectively.

Although Ramaekers does not specifically teach the intended use of the composition for cardiovascular disorders, the composition of Ramaekers containing an inflammation-reducing component such as transfer factor, a blood flow enhancing component such as arginine and niacinimide, and a LDL receptor-binding agent such as lysine salt would intrinsically possess an ability to treat cardiovascular disorders as supported by Gordon (see page 3), Kirkpatrick (see Abstract) and Tentolouris et al. (see Abstract), respectively.

In regard to the limitation of to an inflammation-reducing component or a pathogen-reducing component in the composition being specific for HSV-II (claims 9 and 58), Ramaekers teaches transfer factor specific for HSV, and it is well known in the art that HSV encompasses HSV-I and HSV-II, a person of ordinary skill in the art would have once envisaged transfer factor specific for HSV-I or HSV-II for the composition of Ramaekers.

M.P.E.P. § 2111.03 clearly indicates that the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) (emphasis in original). "A 'consisting essentially of' claim occupies a middle ground between closed claims that are written in a consisting of' format and fully open claims that are drafted in a 'comprising' format." *PPG Industries v. Guardian Industries*, 156

F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998), *et al.* For the purposes of searching for and applying prior art under 35 U.S.C. §§ 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964) *et al.* Since the specification in this case does not particularly point out the basic and novel characteristics of the claimed composition, "consisting essentially of" in claims 1, 50 and 68 have been interpreted as "comprising" for the purpose of art rejections.

Therefore, the invention as a whole would have been prima facie obvious to a person of ordinary skill at the time the invention was made.

Claims 4-6, 53-55, 68, 70 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaekers (supra) in view of Tentolouris et al. (supra) in further view of Tokoro (US 5,080,895).

Claims 4-6, 53-55, 68, 70 and 71 are drawn to limitations to the transfer factor being non-mammalian; avian transfer factor; the avian transfer factor comprising an egg extract; a composition comprising avian transfer factor specific for HSV-II, vitamin C, niacinamide, an arginine-containing compound and a lysine-containing compound; a limitation to the arginine-containing compound being magnesium arginate, and the

lysine-containing compound being magnesium lysinate; a limitation to transfer factor and vitamin C being equal amount.

Ramaekers in view of Tentolouris et al. teach a composition having transfer factor and a blood flow-enhancing component (arginine), nicotinamide, vitamin C and lysin, and the transfer factor being specific for HSV which includes HSV-I and HSV-II (see above).

Ramaekers in view of Tentolouris et al. do not teach that the transfer factor is non-mammalian, avian or from egg extract.

Tokoro teaches transfer factor from egg extract of immunized hen (see Examples).

It would therefore have been obvious for the person of ordinary skill in the art at the time the invention was made to replace the mammalian transfer factor of Ramaekers in view of Tentolouris et al. with the transfer factor from egg extract taught by Tokoro.

The skilled artisan would have been motivated to make such a modification because the production of transfer factor in a large amount from colostrums is difficult and limited due to its production is limited to a few days, and furthermore necessitates a vast farm land according to Tokoro (see column 1, lines 39-49).

The person of ordinary skill in the art would have had a reasonable expectation of success in replacing transfer factor of Ramaekers in view of Tentolouris et al. with that of Tokoro because the production of transfer factor and/or antibody from eggs of

immunized hen has been successfully practiced in the art.

Therefore, the invention as a whole would have been prima facie obvious to a person of ordinary skill at the time the invention was made.

Claims 1, 16, 50, 62 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaekers (supra) in view of Singh et al. (J. Assoc. Physicians India, 1998 46(3):299-306; Abstract).

Claims 16 and 65 are drawn to limitations to the antioxidant comprising coenzyme Q10 (claims 16 and 65).

Ramaekers in view of Rath et al. Tentolouris et al., Cholesterol-lowering drugs, Focant et al., Gordon, or Kirkpatrick teach limitations of claims 1, 50 and 62 (see above).

Although Ramaekers does not teach the use of coenzyme Q10 in the composition, it would have been obvious for the person of ordinary skill in the art at the time the invention was made to replace antioxidants such as vitamin E taught by Ramaekers with coenzyme Q10, another well-known antioxidant taught by Singh et al., for the same purpose.

Furthermore, the skilled artisan would have been motivated to make such a modification because Singh et al. teach Coenzyme Q10 deficiency in patients with congestive heart failure and coronary artery disease (see Abstract) and therefore providing a motivation to replace vitamin E with coenzyme Q10 which would be beneficial to cardiovascular disorders.

M.P.E.P. § 2144.06 states "*In re* Ruff, 256 F.2d 590, 118 USPQ 340 (CCPA 1958) (The mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the equivalency of these components. However, an applicant's expressed recognition of an art-recognized or obvious equivalent may be used to refute an argument that such equivalency does not exist.); *In re* Scott, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963) (Claims were drawn to a hollow fiberglass shaft for archery and a process for the production thereof where the shaft differed from the prior art in the use of a paper tube as the core of the shaft as compared with the light wood or hardened foamed resin core of the prior art. The Board found the claimed invention would have been obvious, reasoning that the prior art foam core is the functional and mechanical equivalent of the claimed paper core. The court reversed, holding that components which are functionally or mechanically equivalent are not necessarily obvious in view of one another, and in this case, the use of a light wood or hardened foam resin core does not fairly suggest the use of a paper core.); Smith v. Hayashi, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (The mere fact that phthalocyanine and selenium function as equivalent photoconductors in the claimed environment was not sufficient to establish that one would have been obvious over the other. However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such

substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982)."

Therefore, the invention as a whole would have been prima facie obvious to a person of ordinary skill at the time the invention was made.

Claims 68 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaekers (supra) in view of Tentolouris et al. in light of Pearson et al. (US 6,693,094).

Ramaekers in view of Tentolouris et al. render the limitation of the presence of arginine and lysine in the composition comprising transfer factor, vitamin C and niacinamide obvious (see above; claim 68).

Although Ramaekers in view of Tentolouris et al. does not teach the source of the arginine being magnesium arginate, since the key element of magnesium arginate is arginine, magnesium arginate is considered as art-recognized equivalent to arginine as evidenced by Pearson et al. Pearson et al. disclose that examples of L-arginine include L-arginine ascorbate, magnesium L-argniate, zine L-arginate and copper L-arginate and their bis-L-arginine and bis-ascorbate forms (see column 8, lines 38-41). Similarly, magnesium lysinate is considered as an art-recognized equivalent of lysine.

M.P.E.P. §2144.06 states "In re Scott, 323 F.2d 1016, 139 USPQ 297 (CCPA 1963) (Claims were drawn to a hollow fiberglass shaft for archery and a process for the production thereof where the shaft differed from the prior art in the use of a paper tube as the core of the shaft as compared with the light wood or hardened foamed resin core of the prior art. The Board found the claimed invention would have been obvious,

reasoning that the prior art foam core is the functional and mechanical equivalent of the claimed paper core. The court reversed, holding that components which are functionally or mechanically equivalent are not necessarily obvious in view of one another, and in this case, the use of a light wood or hardened foam resin core does not fairly suggest the use of a paper core.); Smith v. Hayashi, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (The mere fact that phthalocyanine and selenium function as equivalent photoconductors in the claimed environment was not sufficient to establish that one would have been obvious over the other. However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.)."

Therefore, the invention as a whole would have been prima facie obvious to a person of ordinary skill at the time the invention was made.

***Conclusion***

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taeyoon Kim whose telephone number is (571)272-9041. The examiner can normally be reached on 8:00 am - 4:00 pm ET (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leon B Lankford/
Primary Examiner, Art Unit 1651

Taeyoon Kim
AU-1651